APS T&A

Time & Attendance software for APS mini Plus and APS 400 systems

(Extending program module for APS Administrator)

User's Guide

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1. Content

All brand or product names are or may be trademarks of, and are used to identify products and services of, their respective owners.

2. Product description, installation

2.1. Brief product description

Extending module *APS T&A* expands the program package *APS Administrator*. with attendance processing based on operating events of APS 400 and APS mini Plus identification system. The product is designed for a multi-user usage in LAN network environments similarly to APS Administrator.

With regard to different demands on the way of attendance processing, the product is designed to enable defining the rules of processing by a user himself. Specific demands on the way of processing or output data format are implemental as made-to-order.

2.2. License terms and conditions

The system must contain proper T&A licenses to meet the terms for this extending module use. In *APS mini Plus* system each reader, which is used for T&A data collection, must be equipped with an *MLA* license. In *APS 400* system each system controller, which contains a reader, which is used for T&A data collection, must be equipped with a *TA* license.

2.3. System hardware and OS requirements

Requirements for the server hardware equipment and clients‘ computers are proportional to the overall load of the system. Consult your regional dealer for an advice with choosing suitable HW and OS! Recommended operating system is *MS Windows 10 / 11*. The product requires *.NET Framework 4.6.1* environment to run.

2.4. Software installation, data security, and backup

The *APS T&A* module installation is a part of APS Administrator program package installer, is is contained in the complete installation.

Installation of the extending module *APS T&A* does not exclude using other extending modules of *APS Administrator* simultaneously

Since the data modules of the attendance software are integrated right in the *APS400nAdministrator* database, the same rules for their security and backup management are mantained. More information to this subject can be found in the user’s manual of *APS Administrator program*.

The users, who are to be authorized to work with the attendance module, need to have appropriate rights set in their personal cards (see the APS Administrator manual).

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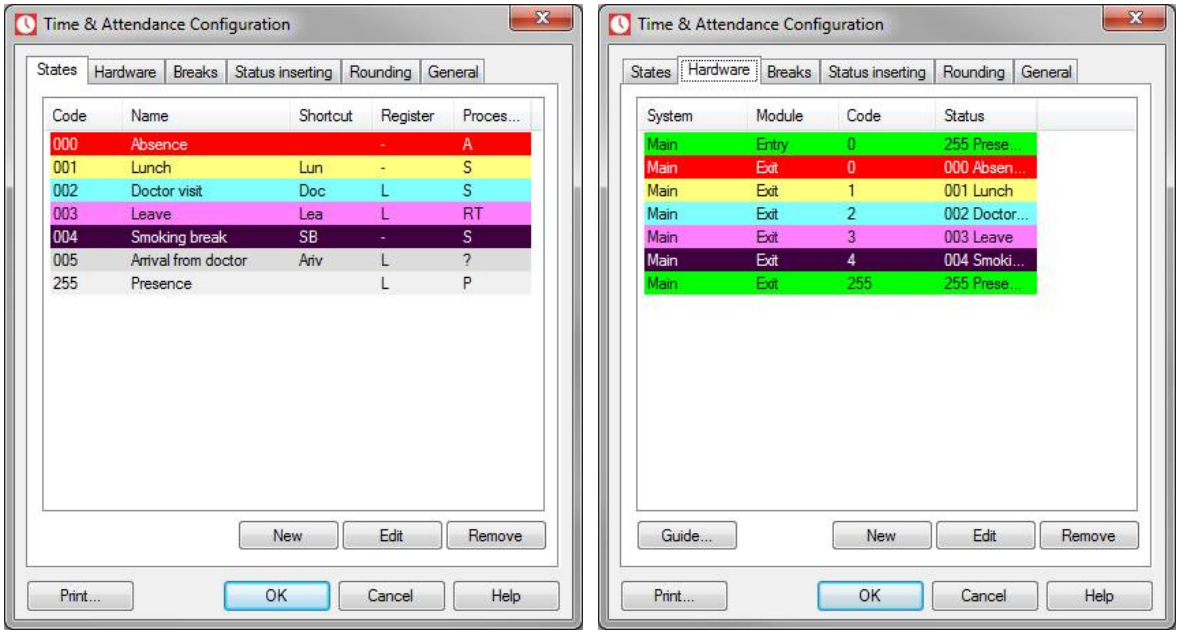
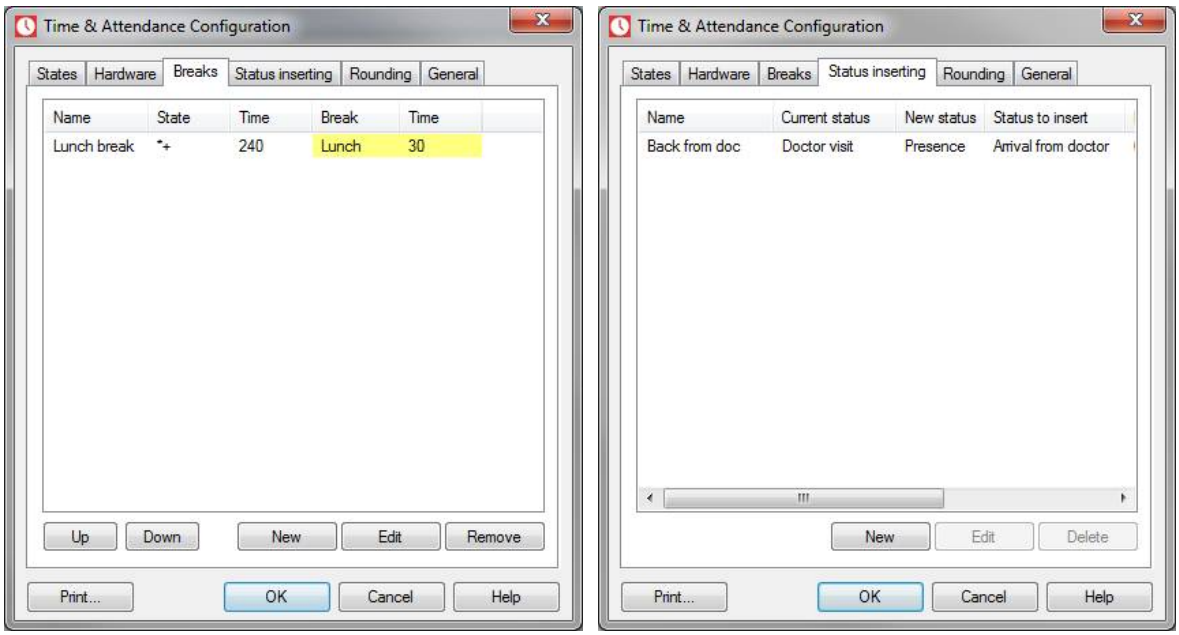
3. System Configuration

3.1. Configuration dialog

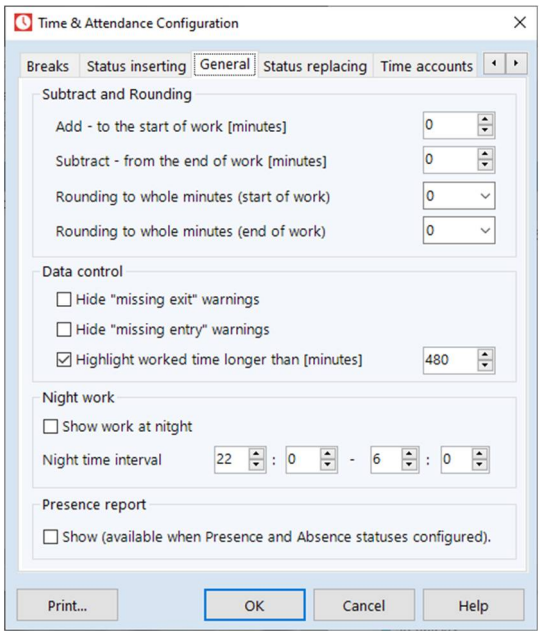
A configuration dialog for attendance parameters setting is available for users with the *Administrator* and *Attendance administrator* authorizations. The dialog is displayed by choosing the *Attendance* command from the *Configuration* menu in the main application window. Configuration dialog contains 8 tab pages (*fig. 3.1 – 3.8*), containing a possibility to configure particular groups of parameters of the attendance processing. Parameters configured are stored and used after closing the dialog by pushing the *OK* button.

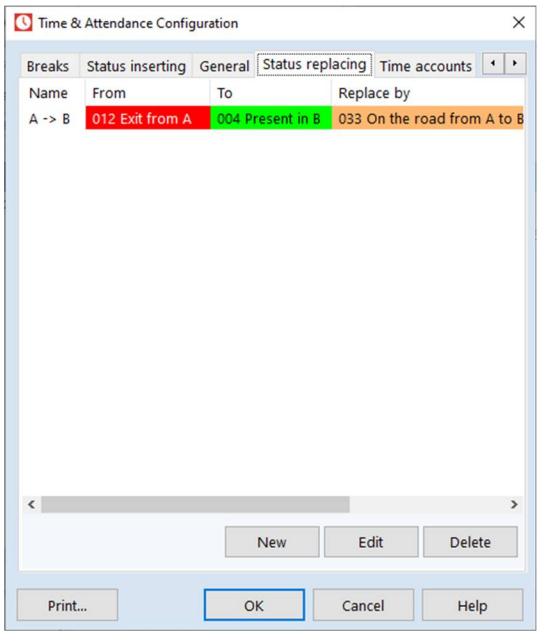


Pic. 3.1 and 3.2: T&A configuration: States and Hardware tabs

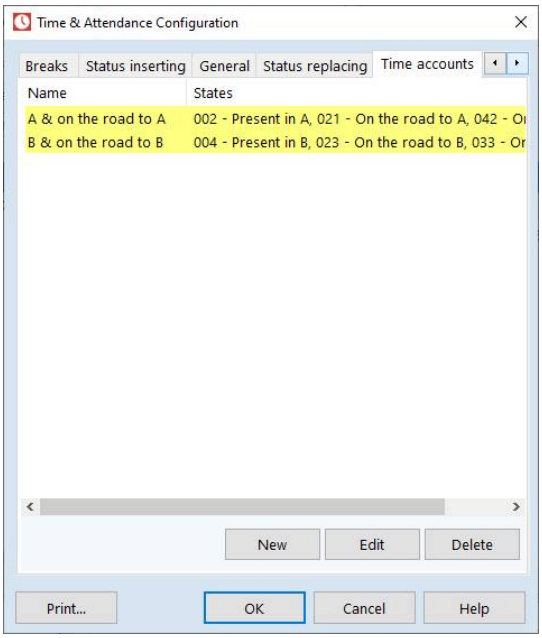


Pic. 3.3 and 3.4: T&A configuration: Breaks and Status inserting tabs





Pic. 3.5 and 3.6: T&A configuration: General and Status replacing tabs



Pic. 3.7: T&A configuration: Time accounts tab

3.2. Attendance status

The process of attendance evaluation is started from a sequence of attendance status changes in time. Subtractions and rounding offs are performed first, then the automatically inserted intervals are added, and finally the attendance status durations are calculated and counted up in corresponding accounts according to the configuration.

These accounts are:

- *Time worked*
- *Leave*
- *Compensatory time off*

The balance is calculated as a difference between the time worked and the workload.

It is possible to define up to *255* attendance states. At least two states are obligatory to be defined: *Presence*, *Absence*.

The states are defined in the first tab of the configuration dialog (*pic. 3.1*), which contains following items:

- *Code* … a unique number from the interval *<0, 255>.* These numbers are automatically offered by the program.
- *Name.*
- *Shortcut.*
- *Description.*
- Flag for *checking two consecutive identical states* (they are then marked with a! And C in the calendar).
- *Display in Month summary flag.*
- *Display in Brief summary flag.*
- *Display in APS Administrator.ST web application flag.*
- *Text color.*
- *Background color.*
- *Way of processing* – optional from the types described further.
- *Way of reporting* – optional from the types described further.
- *Rounding* – optional from the types described further.

3.2.1. Way of processing

- *Current presence*…the beginning of status validity is considered as arriving to work, the state duration time is considered as presence at work
- *Current absence*…the beginning of status validity is considered as leaving the work, the state duration time is considered as absence at work
- *Long-termed (starting from the current day)*…after submitting the state all states set before are ignored in that particular day and the duration time is included in the length equal to the workload set (according to the chosen way of registration). The state is included in following days, until it is interrupted by setting another state. When interrupted by another state, this mechanism is (starting at the day of interruption) cancelled.
- *Long-termed (starting from the following day)* … submitting the state is evaluated as a standard leaving the work for the particular day and following days the state is included (according to the chosen way of registration) in the length equal to the workload set. Further mechanism behavior is similar to the previous item.
- *Short-termed*…if it is the last state in a day, it is automatically terminated after the workload is exceeded. Otherwise, it is a common short-term work interruption.
- *Other*…a state requiring an individual supervising by a person responsible for the attendance processing. If there is a status change of this type found in the main application window, an information window is displayed.

3.2.2. Way of registration

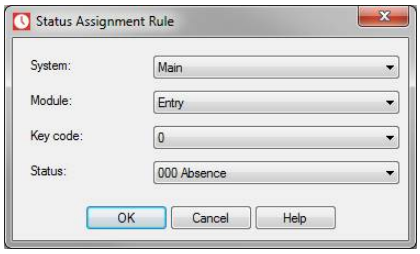
- *Not register*…the time of a status duration is not registered (current absence, work interruption, etc.).
- *Hours worked (anytime)*…the time of status duration is registered to hours worked.
- *Hours worked (working days only)* … the time is registered to hours worked at working days only.
- *Compensatory time off*…the time of status duration is subtracted from the hours worked.
- *Leave (anytime)*…the time of status duration is registered in hours worked and leave hours.
- *Leave (working days only)* … the time of status duration is registered in hours worked and leave hours at working days only.

3.2.3. Rounding

Here you can choose if the general rules for *rounding* and *adding or subtracting* (described further) are applied for the specific status.

3.3. Assignment of status changes to system events (hardware tab)

For a proper function of the attendance system, it is necessary to obtain attendance status changes automatically with users' identifications at selected identification points (readers, T&A terminals, etc.) including proper interpretation of possible reasons set.



Pic. 3.8: Status assignment rule

The rules for status assignment are created for *Valid identification* system events in selected identification points including possible keycodes pressed. These rules can be defined in the second tab page of configuration dialog (*pic. 3.2*).

The rules can be created either manually (*pic. 3.8*), or with a help of a guide, which creates them this way:

- In modules marked in the guide as *Entry* ones there are rules for the status assignment created with code 255 (Presence) for *Valid identification* events with the key code "0".
- In modules marked in the guide as *Exit* ones there are rules for all other status assignments created with the codes numerically corresponding to the codes of keys pressed.

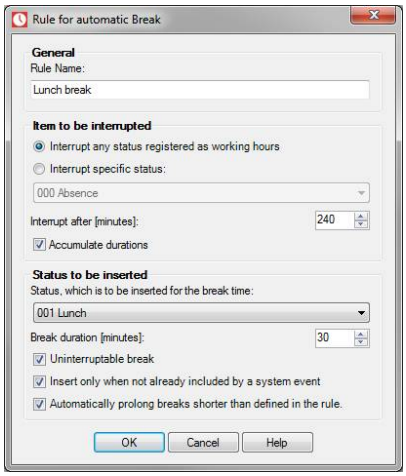
Note: "*0*" key code is sent by a reader module when no key is pressed before reading an ID medium (or when a keypad is not present). "*255*" key code is sent when the identification is performed on an entry reader connected with Wiegand interface.

3.4. Automatically inserted breaks

It is suitable to arrange an automatic break insertion after expiration of a defined time in a defined state at some applications. The rules for this action can be defined in the third tab of the configuration dialogue (*picture 3.3*).

The break rules are evaluated consecutively in the same order as they are displayed in a list when calculating the attendance. Every rule is used once per day at most.

Necessary settings for every rule (*pic. 3.9*) are:



Pic. 3.9: Rule for automatic break

Item to be interrupted:

- Either *specific T&A status*, or *any status registered as working hours*.
- *Duration of the item*, before it should be interrupted.
- Wheter to accumulate the item duration: standardly the duration is understood as uninterrupted duration of the item. If the break should be inserted after the parts of item duration reaches the set time in total, select the *Accumulate durations* option.

Status to be inserted:

- *Status, which is to be inserted for the break time*.
- *Duration* of the break.
- *Uninterruptable break* option – if applied, the break lasts for its full defined time, then it continues by the last status entered by the user (even entered in the break duration); If not applied, the break can be interrupted by any status change happening while the break is applied.
- Automatic break insertion can be suppressed in case the status, which should be inserted by the break rule, is already inserted by the user. This mechanism is applied if the *Insert only when not already included by a system event* option is selected.
- *Automatically prolong breaks shorter than defined in the rule* – if it is required, that the break lasts at minimum the defined time, but if it in real lasts longer, to be processed with its full real duration, select this option.

This option is commonly used for automatic lunch break rule.

3.5. T&A status inserting rule

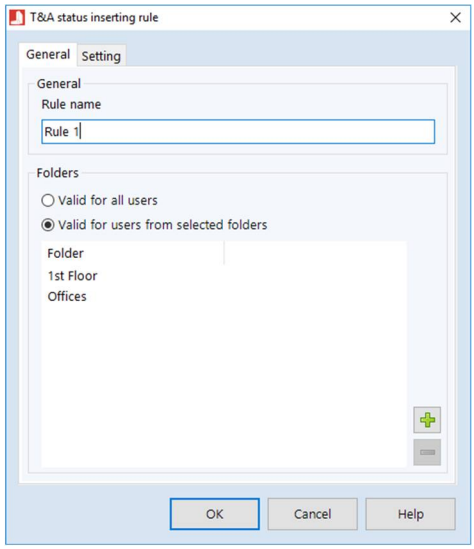
Some applications require defining rules for automatic inserting of a specific T&A status in specific situations.

The rule must be named first (*Rule name*) and then defined if the rule is valid for all users or just for users from selected folders (Folders are made in *APS Administrator*).

Then it is necessary to define, when to apply the rule and which T&A status should be inserted.

First select the status, in which the user should be situated, when the rule should be applied (Apply rule for status inserting, if current status us).

After that select the status on which the current status is being changed, when the rule should be applied (and it is being changed to new status).



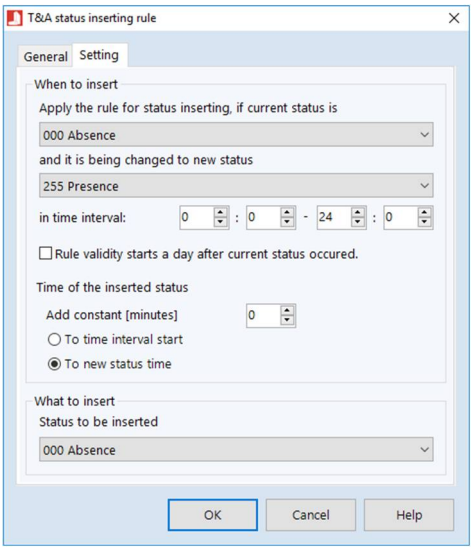
Pic. 3.10: General

After that select the time interval, in which the rule will be applied. If the conditions are outside this interval, the rule will not be applied.

Next option defines if the rule can be applied, if the changing status condition (second condition) happened the same day as the user current status was raised (first condition). If not, use the *Rule validity starts a day after current status occurred* option.

The last setting is the inserted event time determination. You can select either the time interval start boundary (To time interval start), or changing status time (To new status time) as the source time, and add or subtract a time constant to that time (Add constant).

Last step is setting the *status to be inserted* when the rule is applied.



Pic. 3.11: Setting

This option is typically used for automatic inserting of entry T&A statuses.
The rule is applied immediately when the raising conditions are met, and cannot be applied retrospectively.

3.6. General setting

General parameters can be set in the fifth tab of configuration dialogue (*pic. 3.5*).

Substracts and rounding

Identification points can sometimes be rather distant from a workplace. The program enables to set periods that are added to each entry or subtracted from each exit.

The system operates with one second time differentiation, but such differentiation does not have to suit the attendance evaluation demands. By using a pair of configuration parameters "*Rounding to whole minutes*", it is possible to modify the times of status changes. Entry times are rounded up, exit times are rounded down.

Data control

When calculating attendance reports, the program checks for several common errors that may occur in the data, the following warnings can be turned off in the program configuration:

- Missing exit (missing information in the calendar is highlighted in bold and red characters "??").
- Missing entry (in the calendar, the calendar is marked with an exclamation mark and character "E").
- The elapsed time is longer than the set time (in the calendar, the relevant data is highlighted in bold and red), the time is set in minutes.

Night shifts

Despite the fact the program does not include any tools for detailed work and shifts planning, it takes note of the shift-operation and calculates the work starting before and ending after midnight as worked in the day it started.

Night work display

To turn on the night work display, check the proper checkbox at the *General* tab and elect the limits of the night work interval (*pic. 3.6*). If the feature is active, relevant values are displayed at the Calendar and Overview tabs for individual person and selected month.

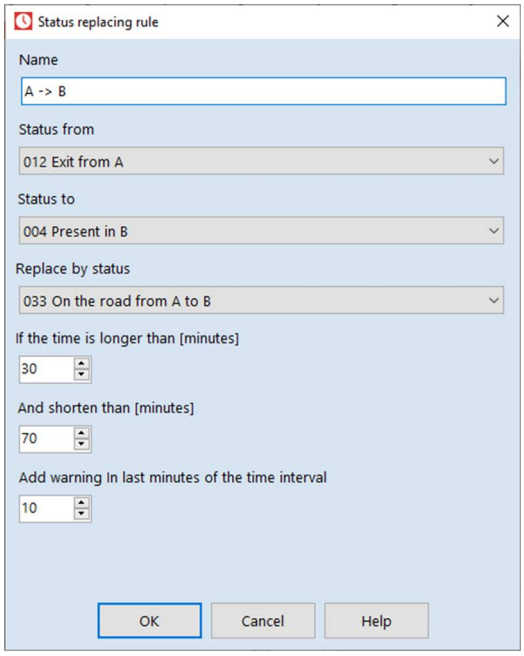
Presence report

The program can display very simplified Presence report. This type of report can be displayed when only statuses Presence and Absence are configured.

3.7. Status replacing

The state replacement function allows you to set rules for the automatic change of the default state based on another consecutive pair of states (Fig. 3.12). This function is provided by APS Server online. The adjustable parameters are as follows:

- Name of the rule,
- initial state,
- target state,
- the state by which will replace the initial state,
- the shortest time interval between the initial and target state for which the rule is valid,
- the longest time interval between the initial and target state for which the rule is valid,
- warning of the application of the rule in the time interval set before the end of the rule longest time validity (in the calendar, the relevant line is highlighted by the characters "!" and "S").



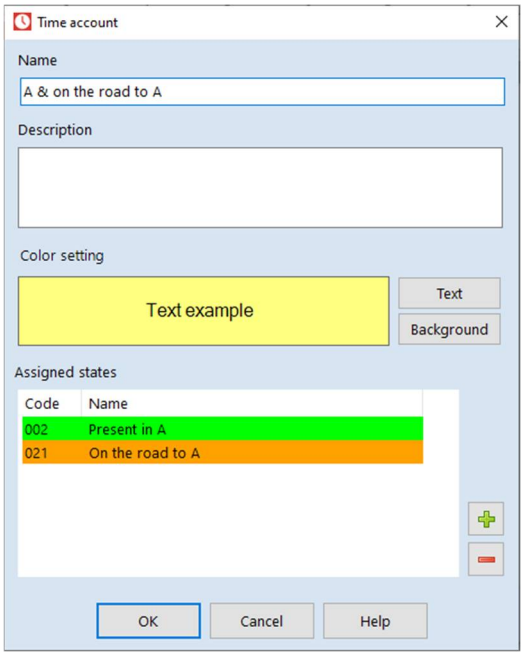
Obr. 3.12: Status replacing rule

3.8. Time accounts

Time accounts are used to summarize the durations of a defined sets of T&A states. Any number of time accounts can be defined, each state can be used in multiple time accounts. The confiurable parameters are as follows:

- Name,
- description,
- text and background colors,
- a list of states whose times are to be included in the time account.

The summarized duration of each time account is displayed in a monthly overview.



Pic. 3.13: Time account

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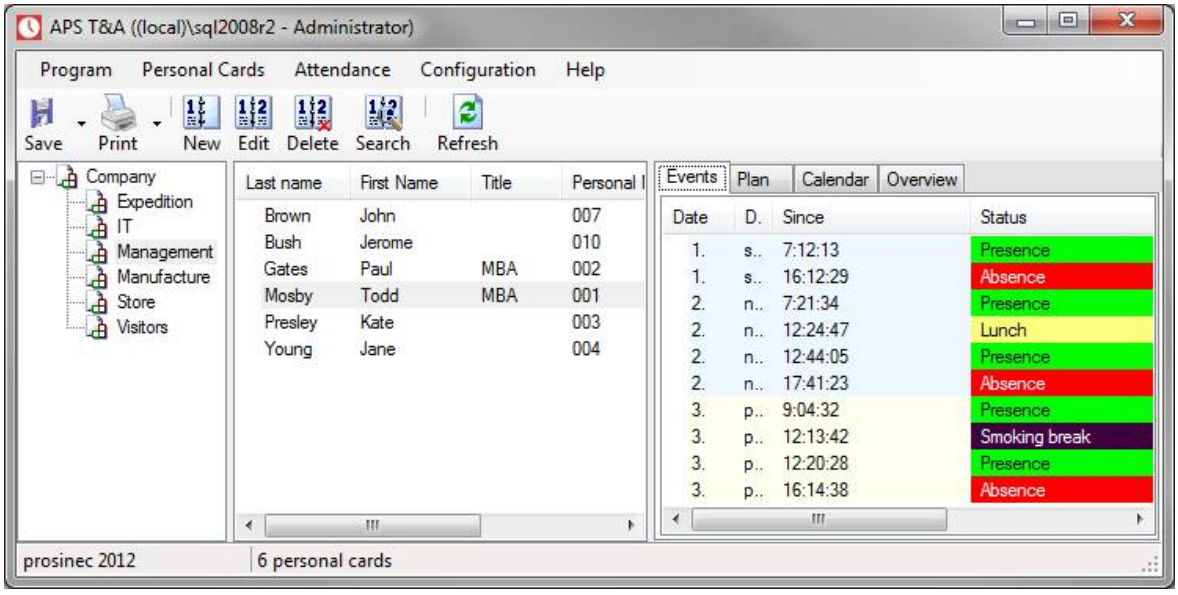
4. Program operation

4.1. Main program window

The main program window (*pic. 4.1*) is divided vertically into three parts:

- *Organizational tree* – it is shared with an administration program, where it is being created and modified. Here it provides a well-arranged program operation. Folders for T&A processing are displayed with green icon in the folders tree, excluded folders are displayed with grey icon. If the user does not have permission to work with the folder, it is indicated with a red icon of the folder. The folders' setting is done in *APS Administrator* program.
- *Personal cards list* – it is also shared with an administration program. It contains a list of personal cards contained in the selected organizational folder. Personal data and attendance settings (workload) can be edited in personal cards list. Their creating and erasing is yielded to the administration software.
- *Attendance data area* – it contains 4 tabs: *Events* (browsing and editing the attendance status changes for selected user), *Work schedule* (Plan), *Calendar* (detailed calendar of the state changes and registered durations), *Summary* (monthly overview of hours worked, compensatory time off, leave and balance).



Pic. 4.1: Main program window

4.2. Choice of evaluated period

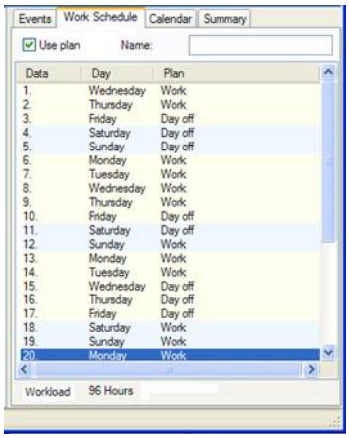
The attendance is evaluated for a one-month term. The choice of a month for processing is available by selecting *Period* command from the *Program* menu in the main application window. The information about selected month is displayed in the left corner of program status line.

4.3. Events editing – attendance states changes

The commands for events processing are available both in the main menu of the program (the *Attendance* menu) and in the local menu of the events list. To accelerate the operation there is a possibility to use the *Enter* (editing selected event), *Delete* (erasing selected events) and *Insert* (inserting a new event) keys. It is necessary to enter date and time and select one of the defined states for every inserted event. Selected events from the list can be also copied from one personal card to another using a clipboard.

4.4. Work schedule

Creating a simple plan for selected user and chosen month can be done in the *Work schedule* tab (*figure 4.2*). Using a plan is controlled by a state of the *Use plan* checkbox. If it is not checked, the standard work disposition to working days is used. A definition of another work schedule is (after checking the check box mentioned above) made by setting the states of selected days to the value *work* (either by related command in local menu or by pushing the spacer).



4.2: Work Schedule

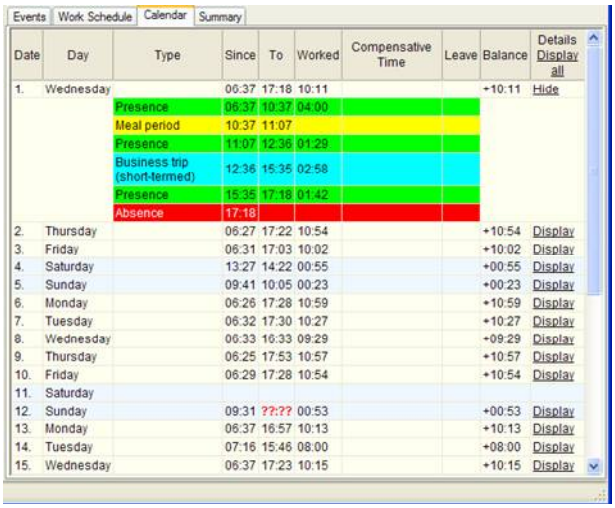
The type of days is distinguished by a background color of individual lines: *working days* (cream-colored); *Saturdays and Sundays* (light blue-colored); *holidays* (pink-colored).

A plan created for one user can be copied to other users using a clipboard. There is an option to set a plan name for a better operating with plans.

There is a month workload displayed in the lower part of a tab, which is calculated as a number of working days multiplied by a daily workload.

4.5. Calendar

The *Calendar* tab (*pic. 4.3*) contains a detailed display of processed attendance for a selected user and a chosen month. Each day is presented by a line in a basic representation, contains following data:



Date	Day	Type	Since	To	Worked	Compensative Time	Leave	Balance	Details Display all
1.	Wednesday		06:37	17:18	10:11			+10:11	Hide
		Presence	06:37	10:37	04:00				
		Meal period	10:37	11:07					
		Presence	11:07	12:36	01:29				
		Business trip (short-termed)	12:36	15:35	02:58				
		Presence	15:35	17:18	01:42				
		Absence	17:18						
2.	Thursday		06:27	17:22	10:54			+10:54	Display
3.	Friday		06:31	17:03	10:02			+10:02	Display
4.	Saturday		13:27	14:22	00:55			+00:55	Display
5.	Sunday		09:41	10:05	00:23			+00:23	Display
6.	Monday		06:26	17:28	10:59			+10:59	Display
7.	Tuesday		06:32	17:30	10:27			+10:27	Display
8.	Wednesday		06:33	16:33	09:29			+09:29	Display
9.	Thursday		06:25	17:53	10:57			+10:57	Display
10.	Friday		06:29	17:28	10:54			+10:54	Display
11.	Saturday								
12.	Sunday		09:31	??:??	00:53			+00:53	Display
13.	Monday		06:37	16:57	10:13			+10:13	Display
14.	Tuesday		07:16	15:46	08:00			+08:00	Display
15.	Wednesday		06:37	17:23	10:15			+10:15	Display

Pic. 4.3: Monthly Calendar

- *Date* (star marks the working days or planned working days).
- *Day* in the week
- *Type*…there is the name of long-termed states, otherwise the field is blank
- *Since*…clocking in
- *To*…clocking out
- *Work*…hours worked
- *Compensatory time off*
- *Leave*
- *Balance*
- Commands *Display* and *Hide* to control the detailed display for the selected day

The background colors of the lines correspond to the colors distinguishing the days in the work schedule. Colors of individual states (set by a user) are used for displaying the details.

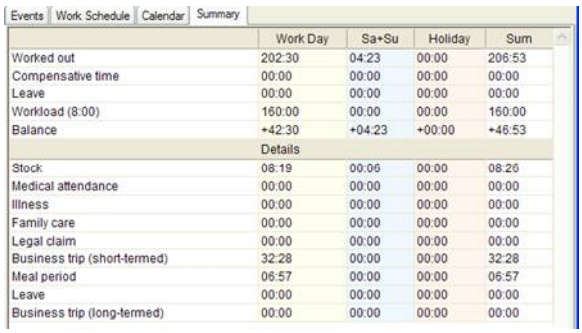
Note 1: When printing calendar there are all details displayed at the page and the column with commands for details' displaying is hidden.
Note 2: It is necessary to enable java script in a web browser setting for a proper work of detailed screening in the calendar.

4.6. Summary

Attendance monthly summary is displayed at the last page. It contains an attendance overview for a selected user and a month.

The upper part of the summary contains data essential for wages calculation, the lower one a sum of times of states enabled in a summary display and the lowest one contains data of the time accounts.

All data are divided into three categories:


Events | Work Schedule | Calendar | Summary

	Work Day	Sa+Su	Holiday	Sum
Worked out	202:30	04:23	00:00	206:53
Compensative time	00:00	00:00	00:00	00:00
Leave	00:00	00:00	00:00	00:00
Workload (8:00)	160:00	00:00	00:00	160:00
Balance	+42:30	+04:23	+00:00	+46:53
	Details			
Stock	08:19	00:06	00:00	08:26
Medical attendance	00:00	00:00	00:00	00:00
Illness	00:00	00:00	00:00	00:00
Family care	00:00	00:00	00:00	00:00
Legal claim	00:00	00:00	00:00	00:00
Business trip (short-termed)	32:28	00:00	00:00	32:28
Meal period	06:57	00:00	00:00	06:57
Leave	00:00	00:00	00:00	00:00
Business trip (long-termed)	00:00	00:00	00:00	00:00

Pic. 4.4: Monthly Summary

- *Work days,*
- *Saturdays and Sundays,*
- *Holidays,*
- a *Sum* of categories mentioned above displayed in the last column.

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4.7. Work with personal cards

4.7.1. Personal card editing

The personal card display is provided by the *Edit* command from the *Personal cards* menu in the main application window or by a local menu in the list of personal cards, or by pressing the *Enter* key or by doubleclicking the left mouse button at selected line in the list. The first personal card tab, *Personal data*, is the same one as the one in the administration program.

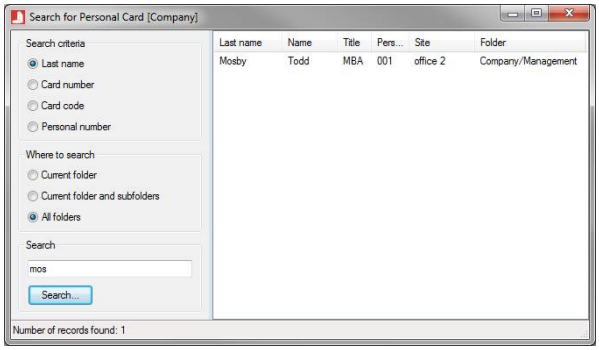
Only a single value can be set in the second tab: *Daily workload* (in hours). Daily workload can be set en masse by choosing the command *Set workload* at the personal cards currently selected.

4.7.2. Searching personal cards

Search for a personal card dialog window (*picture 4.5*) is displayed by the *Search for personal card* command from the *Personal cards* menu in the main application window.

You can perform serch for:

- *Family name*
- *Card number*
- *Card code*
- *Personal number*



Pic. 4.5: Search for personal card

When searching for a code of a card there is a possibility to use a connected *microreader* for data retrieve.

Searching can be performed either in all organizational folders or in a current folder and its subfolders eventually.

After pushing the *Search* button the database is searched through and the results are displayed in the right side of a dialog table (result set contains only data the user is allowed to see). After clicking a personal card found, the dialog gets closed and personal card is highlighted in the personal cards list in the main application window.

4.8. Environment parameters

The environment parameters can be set after choosing *Configuration* > *Environment* from the main menu.

It is possible to set parameters of a server providing a microreader connection in at the *General* tab. This setting is bound to the user's profile. The application language can be changed here as well.

The *CSV Export* tab offers possibility to customize the format of data *export* to a *CSV* file. The options allow to select the *field separators*, *encoding* of the file and to place or not to place *header* to the first line of the file.

4.9. Output options

The program supports following output options: *html* file, *printing output*, and an *export in CSV format*.

The *html file* output option is available after choosing *Program* > *Save*. Following data are stored in the file with each individual choice:

- Summaries (Overview tab)
- Calendar (Calendar tab)
- Brief overview (simple Overview + Calendar)
- Summaries and simplified calendar (fit for printing)
- Summaries and calendar (Calendar + Overview)

The selection can be applied to all users or just currently selected users.

The *printing output* is available in the menu *Program* > *Print*. Individual choices match with the html output file options.

The csv data format output is available in the menu Program > Export > *Export data to csv file*. In the dialog it is necessary to set the location and name of the export file. In case of incomplete data of a user, an information summary is raised. Double-clicking such user selects him and his *Calendar* tab for data input correction.